NANTUCKET CENTRAL BUSINESS DISTRICT

CIRCULATION and PARKING STUDY

1977

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prepared by the

NANTUCKET PLANNING & ECONOMIC DEVELOPMENT COMMISSION

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INTRODUCTION

Main Street is the front door of Nantucket for a number of reasons. It is the center of the Island's commercial activity throughout the year. It is a stone's throw from the Island's gangways to the Mainland- the ferry slips - which account for three to four hundred thousand visitors being deposited on Nantucket's shores each year. Main Street also adds to the vitality of the Island by being an important casual meeting place for those going to the bank, Post Office, or newspaper store. Lastly, it is a beautiful spot - the center of the Old Historic District - which is like no other urban area in this country. Main Street, particularly among those who stay on the island for only a short time, is likely to be in the forefront of a visitor's recollection of the Island as he tells his friends about his vacation and how cobblestone streets still exist.

Year-round Nantucketers who have lived on the Island for any length of time never fail to mention how Main Street used to be twenty or thirty years ago. Sure it was crowded in the summer, but not at all as much as last summer. You used to be able to walk down the sidewalk during the summer, they say, and aside from not feeling like a broken field runner against a tight defense, you could actually recognize people. Today, few Islanders hazard a trip downtown during the three busy summer months unless it is an absolute necessity. Parking has become unbearable over the past thirty years.

Congestion can have a direct and harmful effect upon commercial activity While it is extremely difficult to statistically correlate commercial receipts with traffic congestion on Nantucket, most agree that the ability to travel downtown quickly and conveniently is a fairly important factor in those central business districts around the country that have been successful. What some downtown businessmen have begun to recognize is that some summer home owners who are beginning to avoid the downtown area for shopping during the summer also. Summer home owners which are beginning to outnumber year-round home owners, generally have more disposable income to spend on Main Street. Is the problem getting to the point where it is much easier to bank by mail, shop through a catalogue or do one's major shopping while off-island on other business?

To some who may not be concerned with the economic effects that downtown congestion may have on Island businesses, the problem has been described more in terms of its affect on the beauty and historic flavor of the central business district. How many letters to the editor have been written on the subject of Nantucket's unique downtown character and the threat posed by bumper-to-bumper traffic fuming its way up Main Street?

As congestion increases from year to year, there is a greater feeling of urgency on the part of some year-round businessmen downtown that they must move their businesses out of Town to where customers, other than short term visitors, are able to reach them. Made even more attractive by lower rents, such moves may cumulatively have far-reaching effects on the character of Nantucket's central business district, particularly during the off-season.

While Main Street would probably not become a ghost-town street during the winter, there would be some affect on the vitality of the downtown. Nantucket may not be totally immune from the old central city/shopping center syndrome known to have crippled many a central business district.

The question may be as simple as this: is the problem serious enough to do anything about and if so, what kinds of strategies should public officials and private citizens look at seriously to keep Main Street, and the central business district in general, the Island's front door?

This report seeks to answer these and other questions pertinent to the issues of downtown circulation and parking by:

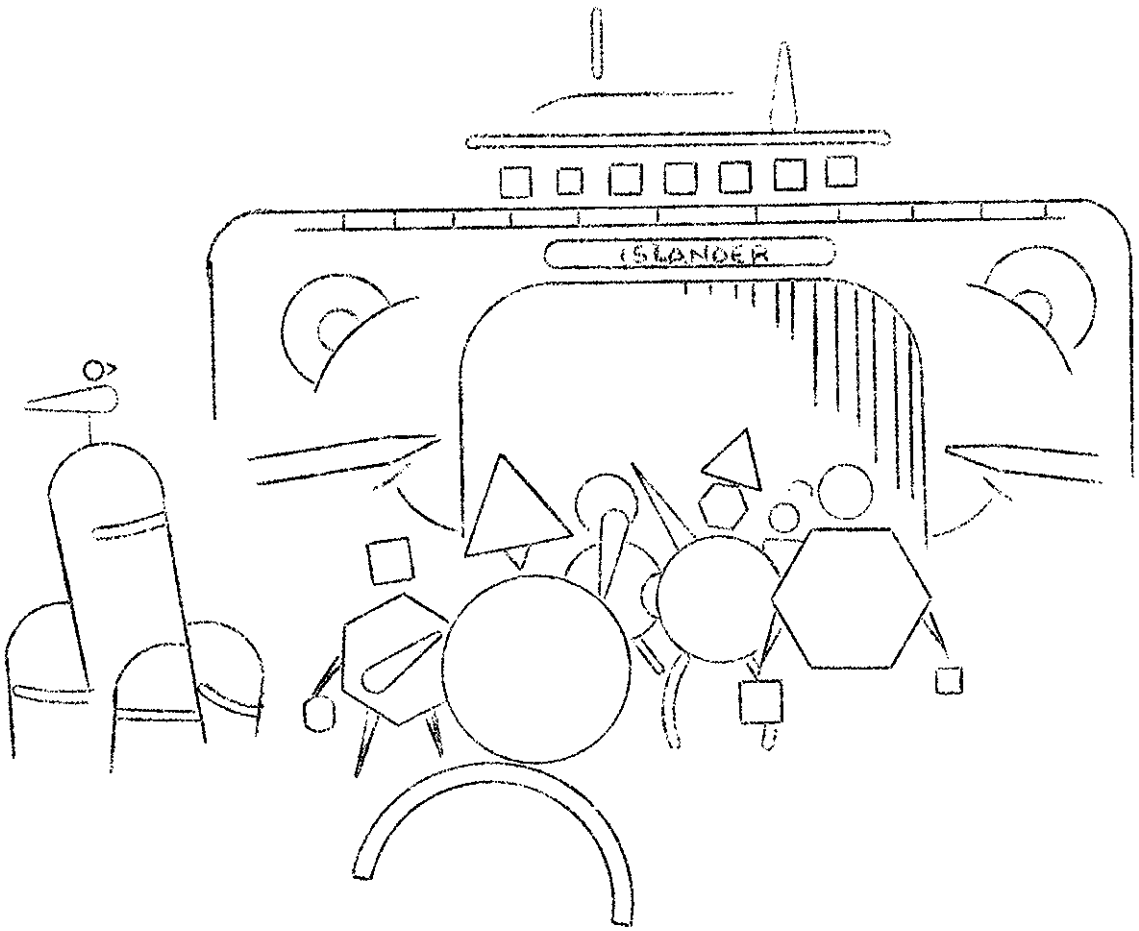
1. Describing the problem as it exists today. (Part I)

2. Proposing some basic goals and objectives. (Part II)

3. Evaluating six alternative actions. (Part III)

4. Proposing a recommended course of action. (Part IV)

I. EXISTING CONDITIONS



I. EXISTING CONDITIONS

Before any well-conceived recommended actions can be put forth, a better understanding of the present problem needs to be gained. The analysis of existing conditions will become the basis upon which goals and objectives are established and alternative strategies are evaluated.

The following sections discuss the magnitude of the problem in terms of traffic generation and volume, traffic flow interruptions and existing central business district land use.

A. TRAFFIC GENERATION AND VOLUME

In July and August of 1975 the Nantucket Planning and Economic Development Commission conducted traffic counts on eight major traffic arteries in the central business district (see Map 1). Graphs of the hourly traffic flow for each of these streets may be found in Appendix A. These counts show where and when traffic flows are the greatest.

South Water Street, which is the first street to intersect Steamboat Wharf and carry traffic towards Main Street, is the most heavily traveled. Nearly all of the Steamboat traffic leaving the parking area or boat itself travels on South Water to Main or Washington outbound in order to reach most destinations. (For this reason the flow of North Water Street, previously one-way in a southerly direction has been reversed to flow northerly. Thus North Water now provides a direct route out of town to the north shore and western end of the Island and diverts this traffic from South Water and Main or Washington somewhat.

Peak hours for traffic flow varied. However, 11:00 to 12:00 am was the most common. During this hour one steamship departs, followed by the arrival and departure of a second boat. This undoubtedly explains some of the heavy traffic prior to the noon hour. Two streets, Orange and Union had peak hours of 4:00 to 5:00 pm the time of day when people are doing their marketing or errands after the beach or work, partaking in happy hour, or are just going to work for the evening. For South Beach Street, the peak hour was 12:00 to 1:00 pm and for Center Street 1:00 to 2:00 pm.

Total volume (not average) of traffic per day reached a high of 8598 cars on South Water Street. Daily average flows ranged from 6716 cars on South Water to 1028 cars on Center Street at Cliff Road. Peak hour average flows varied from 546 to 85 for the same two streets. For an area of roughly fifteen blocks where the majority of commerce is located and there is limited parking, this is a tremendous volume of vehicles.

What is the source of all of these vehicles? Since Island-registered cars number about 5000, the summer influx creates the congestion and brings the total number of vehicles on the roads here to approximately 9,000 - 10,000 at any given time. The following figures indicate the exact number of cars and trucks brought to the island this past season by the Steamship Authority.

STEAMSHIP AUTHORITY

VEHICLES CARRIED TO NANTUCKET - 1976

	April	May	June	July	Aug	Sept	Oct
Cars	1436	1924	3335	3536	3346	2385	1724
Trucks	511	542	686	614	622	451	454
Total	1947	2466	4021	4150	3968	2836	2178

Despite a relatively steep ferry charge ($22.00 one-way to transport a car to the island in the summer) many visitors do so, as illustrated by the seasonal surge in boat traffic. Indeed many summer residents bring more than one car per family, or store an auto on-island during the winter for summer use only. Lack of suitable public transportation and a limited number of rental cars may encourage people to bring an auto with them. According to a Ferry Survey conducted by the NP&EDC over Labor Day weekend of 1976, on the Steamship Authority boats 39 percent of those who came to the island and stayed more than one day used a car for transportation while here, although 71percent of these people had accomodations in the Town area.

Public transportation on Nantucket is very limited. There are three bus companies and two of these operate sightseeing buses only. The third provides bus service between the Town and Sconset for four months during the summer. There is also a beach bus route which runs between the Jetties Beach and the center of town for three months a year. This very limited service obviously does not provide a good alternative to the auto. Current public transit routes are illustrated on Map 6.

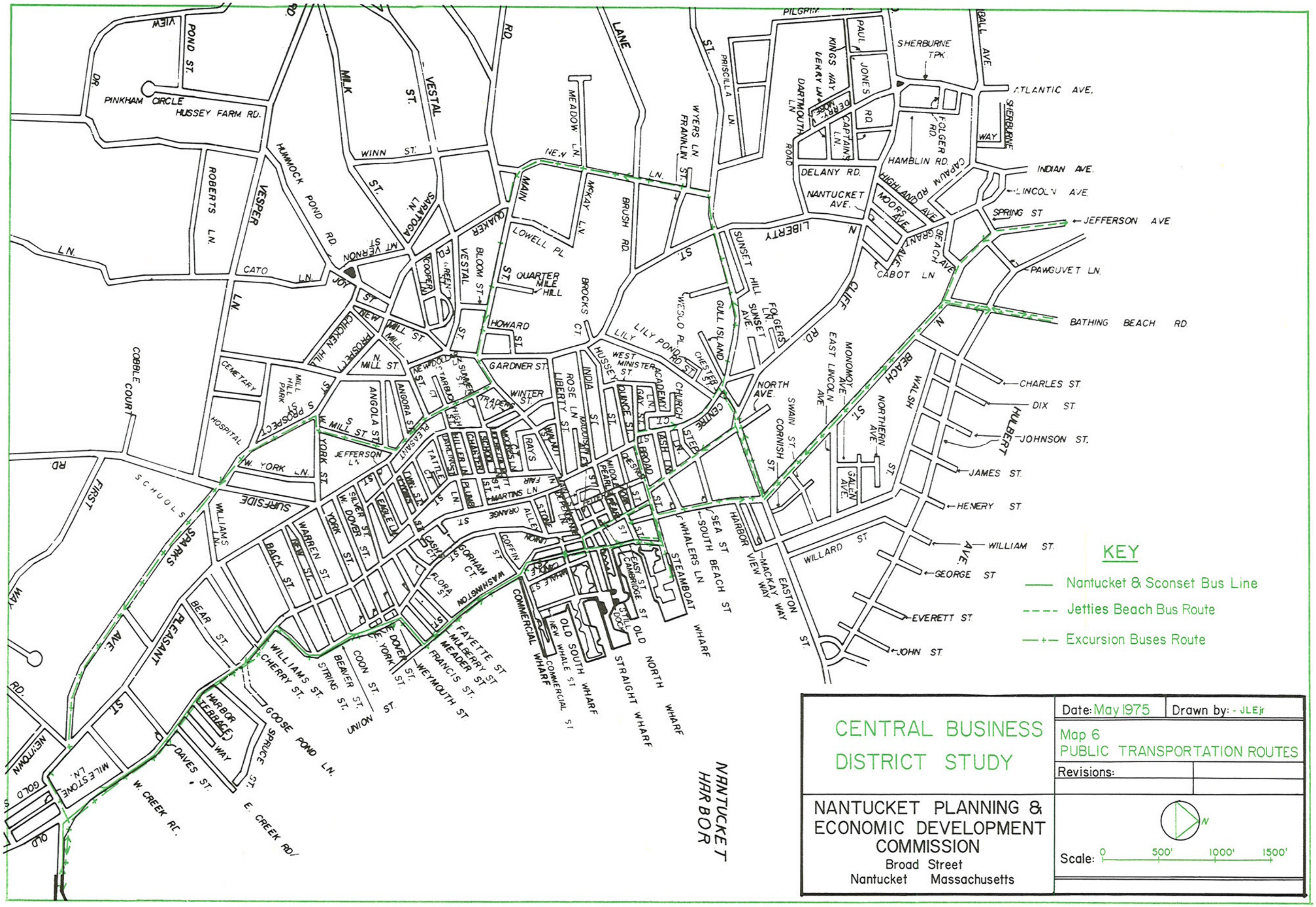
B. TRAFFIC FLOW INTERRUPTIONS

In addition to the sheer volume of vehicles there are other factors to be considered in attempting to remedy the traffic congestion. These include traffic interruptions such as pedestrians, bicycles, parking, traffic control and hazardous areas.

Pedestrians are the largest group to be dealt with and outnumber vehicles in the downtown area. Since the majority of Nantucket's visitors do arrive on foot Steamship Authority passenger counts should provide a clue as to their numbers.

PASSENGERS CARRIED TO NANTUCKET - 1976

	April	May	June	July	Aug	Sept.	Oct
Passengers	7,186	10,968	23,223	35,999	40,363	20,186	10,451


CENTRAL BUSINESS DISTRICT STUDY
Date: May 1975
Drawn by: - JLEjr
Map 6
PUBLIC TRANSPORTATION ROUTES
Revisions:
NANTUCKET PLANNING & ECONOMIC DEVELOPMENT COMMISSION
Broad Street
Nantucket Massachusetts
Scale: 0 500' 1000' 1500'
N
KEY
Nantucket & Sconset Bus Line
Jetties Beach Bus Route
Excursion Buses Route
NANTUCKET HARBOR


PROSPECT ST.
WEST YORK LANE
ATLANTIC AVE.
SOUTH MILL ST.
NORTH MILL ST.
MILL ST.
NEW DOLLAR LANE
ANGOLA ST.
U.S. ROUTE 9
PLEASANT ST.
PINE ST.
FAIR ST.
ORANGE ST.
UNION ST.
WASHINGTON ST.
COMMERCIAL ST.
COMMERCIAL (SEWALL) WHARF
BACK ST.
NEW ST.
BARKER'S AVE.
YORK ST.
WEST SOUTH ST.
SILVER ST.
JEFFERSON AVE.
PARK ST.
MAIN ST.
TRAINING LANE
HILLER LANE
SCHOOL ST.
LUCRETIA MOTT LANE
SUMNER ST.
TRADERS LANE
MARITIME LANE
BEAVER ST.
COOK ST.
EAST YORK ST.
EAST SOUTH ST.
MULBERRY ST.
MECHANICS ST.
FRONT ST.
AVERILL ST.
MERCER ST.
FRANCIS ST.
COFFIN SEA

CENTRAL BUSINESS DISTRICT STUDY

Date: May 1975 | Drawn by: JLE jr.

MAP-4
PARKING STUDY

Revisions:

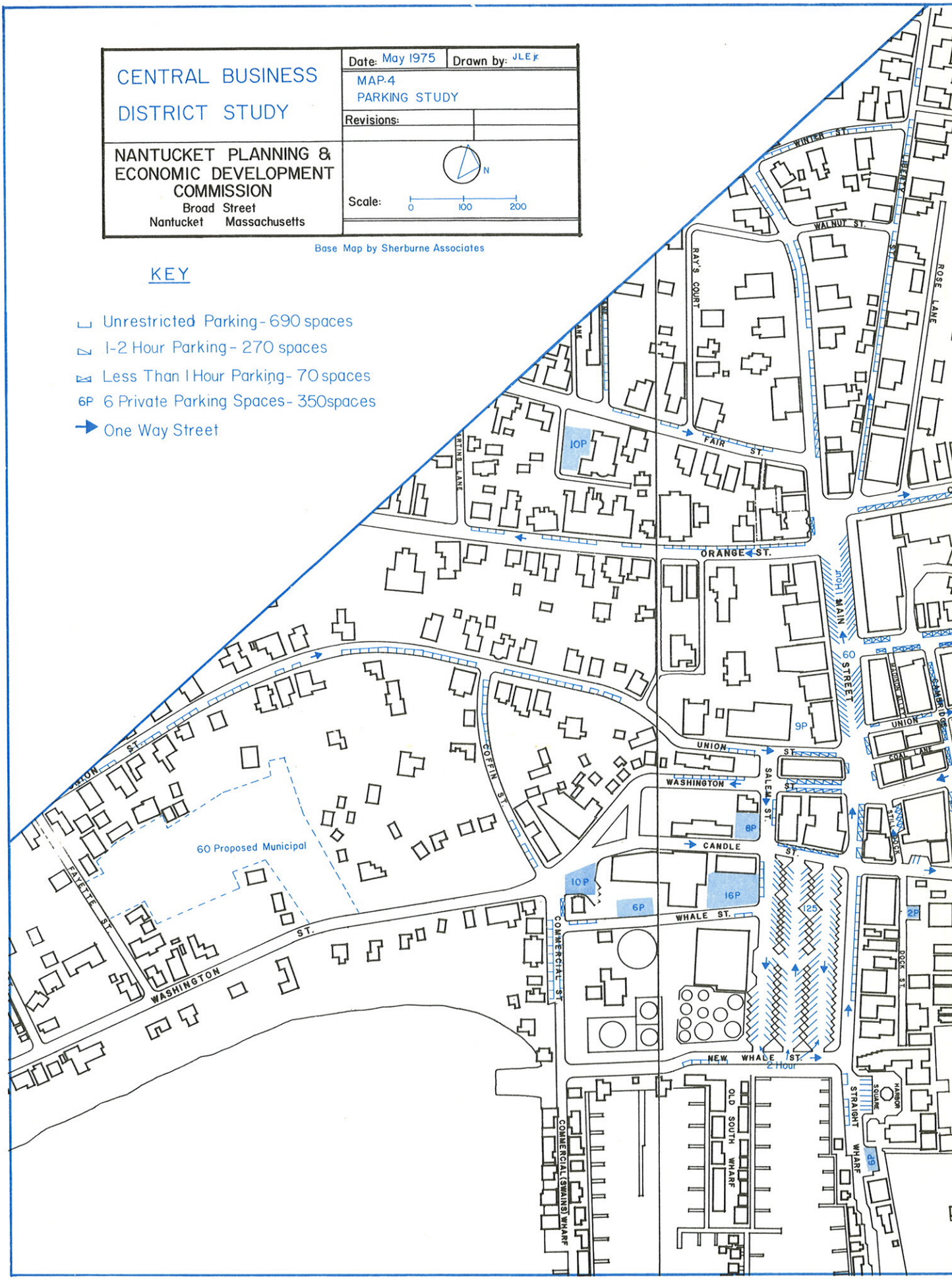
NANTUCKET PLANNING & ECONOMIC DEVELOPMENT COMMISSION
Broad Street
Nantucket Massachusetts

Scale: 0 100 200

Base Map by Sherburne Associates

KEY

- Unrestricted Parking - 690 spaces
- 1-2 Hour Parking - 270 spaces
- Less Than 1 Hour Parking - 70 spaces
- 6P 6 Private Parking Spaces - 350spaces
- One Way Street



Additional people arrive on the Hy-Line boats, a summer ferry service carrying only passengers, for which no statistics are available. Many of these passengers come only for one day and thus do not bring any means of transport with them. There is little information available to them upon arrival and they must locate tours and bike rentals for themselves. Downtown foot traffic in the summer is often so heavy that pedestrians sometimes overflow the sidewalks. According to the previously mentioned Ferry Survey 40 percent of these "daytrippers" use no transportation at all when here other than their own feet. Another 33% use a bus in addition to walking, while 21% use a bike as well as walking. Thus 94% of the daytrippers surveyed did not use a car. For those that stayed more than one day a total of 48% did not use a car while here.

Besides the swarms of pedestrians arriving daily there are a substantial number of bicyclists. Once again we refer to Steamship Authority figures for the number of bikes brought to the Island. These figures include only those bikes walked aboard ship and not those carried on or in a vehicle.

BICYCLES TO NANTUCKET ("CARRY-ONS") - 1976

	April	May	June	July	Aug	Sept	Oct
Bicycles	360	928	1702	2783	3565	1262	447

Rental bikes number about 2250 and there are about 3000 individually owned Island bikes as well. This makes a total of approximately 8,000-9,000 bicycles on Island during the summer season. Presently bicycle facilities include two bike paths beginning on the outskirts of town and continuing to 'Sconset and Surfside. Other than these two paths there are no other facilities or even suggested routes. However the NP&EDC has just completed a Bikeway Master Plan which proposes an island-wide system of paths and connected routes particularly for the narrow downtown streets. As the situation is now, cyclists create havoc on most streets in town and hamper traffic by not obeying the rules of the road. The majority of them are visitors and thus are sightseeing and frequently ride the wrong way on one-way streets. Add narrow streets and parked cars to this situation and the flow of traffic is slowed down considerably.

Parking space in the central business district is quite limited in relation to the number of vehicles flowing through this area. An inventory of existing parking is shown on the Parking Study Map (Map 4) including the time limitations, if any, on each space. From this map we can see that the majority of spaces available have no time limit (690). However if we consider just the central area of this map, meaning the blocks adjacent to commercial activity, (see also Land Use Map) there are only about 270 unrestricted spaces. Within this same central area there are the same number of 1/2 hour spaces. There are also 70 spaces for less than 1 hour parking. In reference to the traffic counts previously mentioned, the total volume of traffic on one street for one day reached a high of 8598. With this tremendous number of cars circulating and only 610 public parking spaces available within the 15 block commercial area there is indeed

a parking problem. Even if we add the additional unrestricted spaces shown on the periphery of Map 4, which are mostly residential parking, this makes a total of only 1030 public spaces. As annoying as this situation is to visitors it is even worse for the year-round residents, especially those that work downtown and need all day parking. One of the few ways to secure a space with unlimited time is to arrive in town early and not move the car until the day is done. However when the downtown employees have parked their automobiles there is little space remaining for driving customers, who frequently circle the block a number of times waiting for an opportunity to park. Since there is little land available in the CBD for more parking, the answer to this problem is to somehow reduce the number of vehicles competing for parking. Possible ways to do this will be discussed in Section III.

There are no traffic signals on the Island and there are less than a dozen stop signs in the central downtown area. Summertime traffic control presently consists of one policeman directing traffic at the intersection of Main and Federal Streets. The Steamship Authority provides their own traffic officer on the wharf when ferries are due.

As the previous paragraphs illustrate there are great numbers of pedestrians and bicyclists, insufficient parking and virtually no traffic control in the CBD. All of these factors add up to severe congestion and some definite hazardous areas. The Accident Map (Map 3,) indicates motor vehicle accidents by location and number. Of the 164 accidents shown on this map one third of them occurred within the Main Street - Center Street - Broad Street - South Water Street area, and on Main Street alone there were 20 mishaps. Orange Street actually had the highest number of accidents for one street, with a total of 22.

From this map one can see that Main Street is the major conflict area. This is easy to understand from a vantage point of Main and Federal on any August day, if indeed you can see across the street. Parking on Main Street is at a forty-five degree angle and thus a driver must back out into the flow of traffic to leave the space. There are sixty one-hour parking spaces on Main Street. With pedestrians, dogs, bikes, double parked delivery trucks and bumper to bumper traffic clogging the street it becomes quite difficult to back a car out into the mainstream of traffic. Hence a number of accidents occur here, and traffic creeps rather than flows on this street.

Intersections within the four street area previously mentioned (Main, Center, Broad, S. Water) also seem to be hazardous. Part of the problem here may be confusion. There are nineteen intersections in this small area and three stop signs. On Orange Street a number of the accidents also occurred at intersections. Other factors are simply the narrowness of roads and the challenge of navigating between parked cars and bicyclists.

C. LAND USE

The CBD Land Use Map (map 5) reveals the character of the Town's central business district. It consists primarily of a concentrated commercial core surrounded by guest houses and single family homes on winding narrow streets. This central downtown area is densely populated and nearly all of the available land is in use. A closer look at each category is helpful in understanding how land use in the downtown area affects traffic generation and congestion.

1. Residential

This category represents the major portion of land use in the downtown area. Most residences are single-family, year-round homes though a number are rented during the summer months. There are also a substantial number of multi-family, or apartment, units. These structures are often old (some quite historic) single family houses that have been altered to create two to five separate living units. Others may be former garages. The present zoning bylaw prohibits the construction of apartment buildings.

In addition to these single use buildings there are a few structures which have more than one use. As well as being a single or multi-family home, a number of residences also have an office or service located there. For instance a law office, art gallery, hairdresser or other similar home occupations may be found in both single family and multi-family dwellings.

Commercial

The Center of the downtown area is almost entirely commercial in use. In this area nearly all of the commercial activity on the island is concentrated creating a congestion problem.

Considering the retail and wholesale trade category, which includes most of Main Street, retail trade is extremely concentrated and most of it is located within three blocks of Main Street. This trade is a high generator of traffic as people converge in these central blocks of downtown. Tourists are the main patrons of many of these stores during the summer since all may be reached on foot from either of the two ferry docks. The major services offered are also within the CBD - banks, law offices and insurance agencies. Another category, guest houses and hotels, accounts for the largest amount of commercially used land. While these tourist accomodations are distributed throughout the CBD, there is a concentration of them north of Broad Street, which makes them adjacent to foot traffic from the ferries and within walking distance of the downtown shops and restaurants.

Besides these three basic types of commercial land uses, there are numerous combinations of multiple uses. Land in the CBD, when available, is sold at astronomical prices. Therefore, many different uses are consolidated under one roof for economic and space reasons.

For example, one may find in a three story building a retail store on the ground floor, business office (service) on the second floor and apartments on the third floor. Possible and actual multiple uses are too varied to discuss each one specifically but this example gives one an insight as to how thouroughly each parcel of land is used in the CBD.

Public and Semi-Public

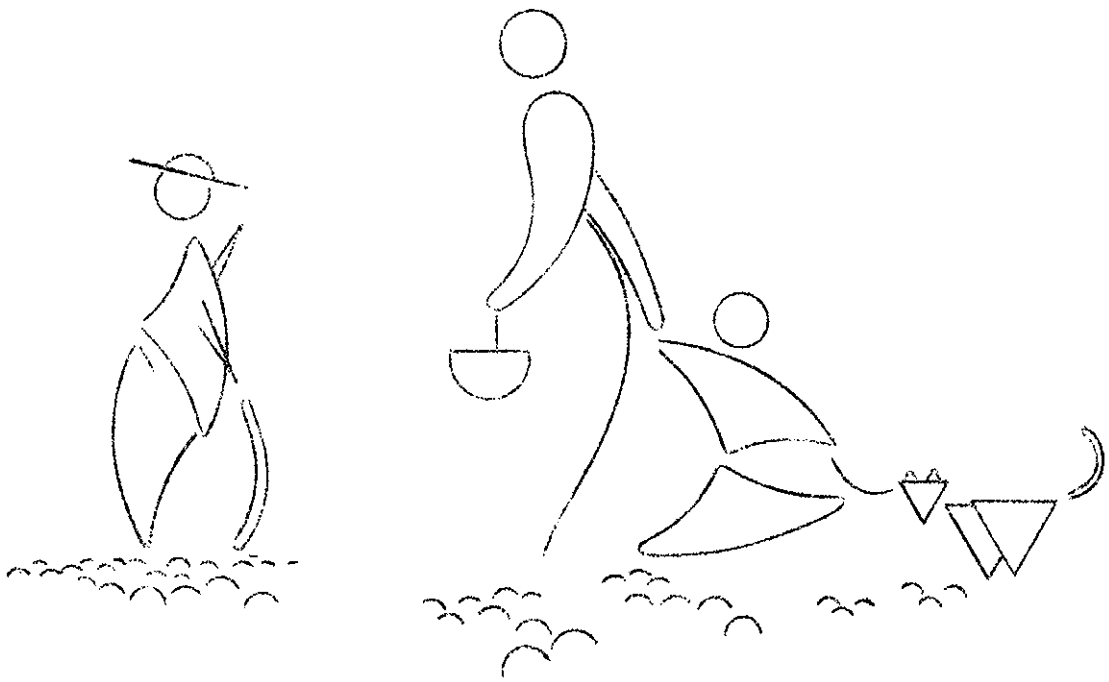
This classification deals with all the land uses which are publicly oriented. Utilities, Transportation and Communication represent a good deal of land in the downtown and includes the sewage pumping station, electric and fuel companies, the ferry docks, wharves, some parking facilities and public transportation offices, and the telephone company.

Churches and Cemeteries account for a small portion of land use in the CBD although there are four major churches within one block of Main Street. Public and Semi-Public Institutions covers such uses as the public library, post office, town government offices, schools, museums, hospital etc. Public and Semi-Public Parks, Recreation and Conservation, although a small percent of the total land use in the CBD, does comprise a fair amount of the waterfront land use. This category includes tennis courts, the Yacht Club, public beaches, movie theater etc.

Vacant and Water Bodies

Lastly, this classification inventories vacant land that is not used for any specific purpose. The open spaces shown on the map are mostly overgrown fields or in some cases gardens. It is easy to see that there is relatively little vacant land remaining in the CBD. The illustration of the harbor area (water bodies) indicates how closely the Town was and is tied to the sea. All types of land use are found along the shore with very little waterfront land going unused.

II GOALS AND OBJECTIVES



II GOALS AND OBJECTIVES

Having described the existing problems associated with central business district circulation and parking, direction to the planning process must be gained. Perhaps one of the better tools for doing this is to establish a statement of goals and objectives.

The following Goals and Objectives were formally adopted by Town Meeting vote on April 6, 1976 and address transportation-related issues. Objectives appearing in parentheses are suggested additions to the statement based upon an analysis of Part I of this report.

TO DEVELOP AND IMPLEMENT STRATEGIES THAT WILL SEEK TO SUITABLY BALANCE THE ISLAND'S MODES OF TRANSPORTATION IN ORDER TO PROVIDE FOR THE SAFEST, MOST CONVENIENT AND MOST ECONOMICAL SYSTEM, BOTH ON AND OFF ISLAND, AND IN SUCH A MANNER THAT VALUES RELATING TO THE ISLAND'S HISTORY, ENVIRONMENT AND SCENIC RESOURCES, WHICH ARE THE MAINSTAY OF THE LOCAL ECONOMY, ARE PROTECTED.

Objective A: Automobile Congestion

To improve summertime automobile congestion and parking problems experienced by downtown Nantucket by developing both a short term and long range strategy aimed at:

1. Creating incentives designed to encourage summer visitors to limit the number of automobiles brought to the Island, particularly for families which bring or operate more than one car.
2. Improving the coverage and frequency of bus service on the Island during the summer monthes and evaluating the feasibility of other alternative forms of personalized transit, such as electric vehicles.
3. To develop an equitable way to control abuses of operators of off-street vehicles.

(4. Improve traffic flow patterns in the central business district.)

(5. Provide for additional parking opportunities in the downtown area through the creation of new off-street spaces and wider enforcement of parking restrictions.)

Objective B: Bicycles

To develop an Island-wide system of bicycle paths; to separate vehicular traffic from bicycle traffic in built-up areas; and to promote the use of the bicycle over automobile use during the summer season.

Objective C: Transportation for the Aged

To provide Nantucket's aged, particularly those on fixed incomes, with low-cost, reliable transportation.

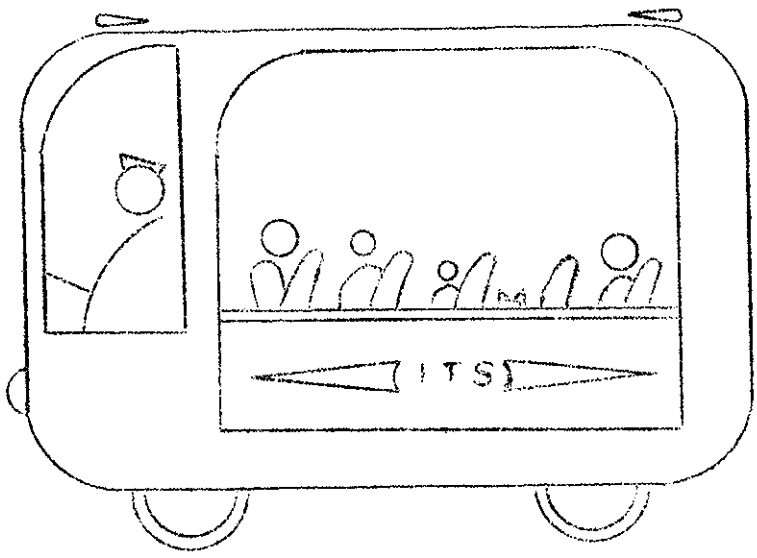
Objective D: Cff-Island Transportation

To provide the most convenient, economical and safe transportation service to and from the mainland by water and air in a manner and degree which is compatible with the passenger and freight needs of the Island but also with the Island's character and other comprehensive goals and objectives for balanced growth.

Objective E: Capital Improvements for Transportation

To establish a five-year capital improvements program and an annual budget for all road taking and road improvement on Nantucket in order to make such takings and improvements related to a highway plan for the Island; and to assure that all new subdivisions are served by adequate access roads and provide internal streets which provide access by emergency vehicles.

III ALTERNATIVE ACTIONS



III ALTERNATIVE ACTIONS

Part III of the Central Business District Circulation and Parking Study is the result of bringing together the analysis of existing conditions of Part I with the goals and objectives established in Part II. Alternative solutions are discussed which, to varying degrees, will help the Island reduce the problem and thus come closer to its goals.

Alternative actions are grouped into six categories. New traffic flow patterns are proposals which change the direction of vehicular traffic by traffic engineering means such as street widening, narrowing, signage and traffic signals, or changing one-way street patterns. While traffic flow changes can affect volumes of traffic and congestion in parts of a central business district, it may not be successful in limiting congestion throughout the CBD.

A second type of action investigated was the provision of better parking opportunities in the downtown area. Both on and off-street parking is considered. The need for tighter restrictions in areas of the CBD not now restricted is discussed. Requirements for parking associated with new construction is also included in the analysis.

Public Transit, which on Nantucket means public bus service (unless we can expect the Nantucket Railroad to make a comeback), is the third general alternative which is presented in this section of the report. While a Transit Development Plan is being prepared separately to look at this possibility in greater detail,* this report seeks to list the pros and cons of such a system and presents several hypothetical systems for discussion purposes.

The creation of in-town Class III bikeways using existing roadways may be an effective and economical way to loosen up traffic congestion due to traffic interruptions. This alternative is the fourth to be considered in this report.

Control of off-island vehicles is always a hotly debated strategy on the Island and constitutes the fifth alternative action evaluated here. The legal and economic effects of such an alternative are extremely complex.

Lastly, the concept of a Main street mall or pedestrian sanctuaries are looked at in the final section of Part III. The idea of closing the downtown to traffic during the peak season has been considered for some time and is not without some degree of risk if not planned carefully. The advantages and disadvantages of the proposal will be discussed and evaluated.

The six alternative actions included in this section are by no means mutually exclusive. The success of one strategy will often depend upon other actions taken elsewhere. Dependencies of this kind are noted when appropriate.

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*The Transit Development Plan is scheduled to be published in the Fall of 1977.

A. NEW TRAFFIC FLOW PATTERNS

Existing flow patterns and traffic volumes have been discussed in Part I of this report and generally support intuitive and visual experience - that the major traffic congestion problem occurs at the intersection of Lower Main Street with North Water Street, Washington Street and Union Street. Many other traffic problems in the central business district are affected by this ensnarlment.

While volumes of traffic entering Main Street from South Water Street are high, particularly shortly after the boat arrives, they are not beyond the normal carrying capacity of the street, or of Main Street or Washington Street for that matter. However, these high volumes when combined with the inordinate number of vehicle interruptions in the area causes major traffic jams during peak summer hours.

Vehicle interruptions in the area include pedestrians and bicyclists crossing North Water Street in front of the Pacific Club, across Washington Street at Main and all along Main Street. The use of traffic control officers at this troublesome intersection has tended to loosen things up at peak hours but can do nothing for another type of major traffic flow interruption - cars backing out of angle parking places all along Main Street - which is an unavoidable price that must be paid for using angle parking.

Any changes to the flow of traffic must aim to lighten the load that the South Water - Main - Washington - Union Streets area has had to bear over the years. It should seek to divert a portion of automobiles coming off the boat away from Lower Main Street by trying to guide them out of Town, or around the CBD, at the earliest possible opportunity, particularly those vehicles wanting to go to the Madaket or Surfside areas.

Furthermore, vehicles desirous of traveling from northern sections of the central business district (such as Broad Street, Center Street, North Beach St.) to southern sections (such as Lower Orange St.) should be given an alternate route. As it stands at the moment, all such traffic must either route itself through Lower Main Street or divert itself around the central business district via Quaker Road.

The Town should consider the following traffic flow actions:

1. Making North Water Street one-way in a northerly direction to Cliff Road in order to divert boat generated traffic out of or around the central business district at the earliest opportunity. This change was made by the Board of Selectmen in June of 1976 for a trial period.

2. Making Center Street one-way in a southerly direction from West Chester Street to Broad Street to allow traffic to reach the CBD in light of the previous change. This change was made by the Board of Selectmen in June of 1976 for a trial period.

3. Making Cliff Road one-way in a southerly direction from North Liberty Street to West Chester Street to connect the balance of Cliff Road with Center Street and to improve the dangerous intersection at the top of the hill where Cliff Road meets North Water Street. This change was also implemented by the Board of Selectmen in June, 1976.

The overall effects of these three traffic flow changes should not be over-estimated. While not solely cosmetic in nature, these changes by themselves cannot hope to drammatically affect congestion in Nantucket's central business district because they do not in and of themselves offer a reduction in the number of vehicles downtown or do they reduce the parking problem and thus the number of cars circling the block in search of a space. They will, however, when combined with other strategies, reduce demands on North Water Street, Lower Main Street and Washington Street, which in many ways is the key to making Nantucket's downtown work.

B. IMPROVED DOWNTOWN PARKING

The acute shortage of suitable on and off-street parking spaces in Nantucket's central business district has been documented in the land use survey and parking inventory in Part I of this report. It is clear that the lack of suitable space compounds the already grim traffic congestion problem by adding to the streets numerous vehicles that are simply "cruising for a space". Traffic congestion is made worse also by virtue of the fact that some on-street parking configurations (most notably angle parking) can cause numerous and continual interruptions to normal traffic flow during peak hours. Demand for downtown parking is compounded by the several hundred vehicles brought into town each summer day by employees.

Improving parking opportunities in the central business district of Nantucket can include four areas of concern. First, new off-street parking lots could be established within walking distance of Main Street. This may be easier said than done, however, as downtown real estate suitable for such use is almost non-existent and even when available would be extremely expensive. Spending hundreds of thousands of dollars for land which will be used only one-third of the year might be a difficult issue to get Town Meeting approval for. However, there are present and pending opportunities that the Town should seriously consider.

A second area of concern in improving downtown parking is on-street parking restrictions. In recent years, residents have noticed some improvement in parking which came as a result of summer enforcement of restricted areas. Restrictions, themselves, were increased along some streets and instituted on other streets which previously had no time limit at all. The Town should consider expanding restrictions into areas presently unrestricted provided it can provide for the needs of downtown homeowners who may have no suitable off-street parking and provide for the needs of the several hundred employees working in the central business district during the day.

Provision of off-street parking spaces by newly constructed businesses and residences in the central business district is a third parking concern. Although not much new construction is anticipated in the central business district, in the future, that which does occur should provide off-street parking designed for and of such quantity as the proposed use would dictate. (In some cases, discretion on the part of the Town may have to be used in cases where tight in-town lots laid out hundreds of years ago may make literal enforcement of off-street parking requirements an undue hardship).

The fourth and last consideration with regard to downtown parking is the issue of angle parking on Main Street during the busy summer monthes. While there is no question that angle parking functions well during all but three months of the year, interruptions to normally heavy traffic flows up Main St. during a typical mid-day period in the summer caused by vehicles backing out of angle slots is the most serious single cause of traffic delay in the central business district. It must be pointed out, however, that aside from losing parking spaces by converting to parallel parking, there may be a serious hesitancy to convert on the part of some due to habit or custom.

With these considerations in mind, the Town should consider the following actions:

1. Construct a well designed and heavily landscaped 120 space municipal off-street parking facility on the two acre parcel recently purchased by the Town on Washington Street. Sixty spaces should be reserved for use by those using the soon-to-be-constructed Town Pier and has been funded for such use by the Town and Federal Government (Bureau of Outdoor Recreation). The remaining sixty spaces should be devoted to general central business district parking for which the Town should appropriate a sum of money for construction*.

2. Systematically expand on-street summer parking restrictions to areas of the central business district presently not restricted. The speed and extent to which this may be done would depend upon: (a) the degree to which a simple mechanism can be put into effect to allow homeowners without suitable off-street parking to be immune from restrictions on their own street, and (b) the degree to which employees with day-long parking needs may be accomodated.

*The construction of the second 60 spaces may be eligible for Federal funding from the Urban Mass. Transit Administration if the Town ever establishes a transit system.

3. Issue annual "immunity stickers" applicable to a homeowners own restricted street. A parking sticker issued to a homeowner showing his street name and the year would signal a police officer not to ticket that car on the designated street. Stickers would not immunize homeowners from "no parking" fire hydrant or other total exclusions to parking. The Board of Selectmen might consider designating some streets, such as Lower Main Street, ineligible for the issuance of immunity permits.

4. Urge Island businesses to strongly encourage their employees to leave their vehicles outside the central business district. No interests are more directly affected by the scarcity of parking downtown than the businesses themselves. Some businesses have faced up to this fact already by giving priority to summer employment applicants who promise not to bring a car to Nantucket or have required those employees who can to walk or bike to work. Car pooling should not be thought of as merely a mainland or metropolitan phenomenon, particularly for those businesses with set hours. Promotion and advocacy of these and other employee-parking strategies might be best handled by those most familiar with the problem - members of the Nantucket Chamber of Commerce.

5. Expand mini-bus service providing free shuttles to workers on a convenient and frequent schedule from the high school sponsored by the Chamber of Commerce. The key to the success of the shuttle would include the following factors:

(a) High visability through appropriate and frequent notice and proper bus placards (in bus window)
(b) Proper scheduling based on periodic surveys of prospective users
(c) Commitment by businesses to strongly encourage employees to use the shuttle

6. Improve off-street parking, loading and unloading regulations in the Zoning By-Law to be applied to new construction. Proposed by-law change appears in Appendix B.

7. Annually convert parking on Lower Main Street from angle parking to parallel parking for the three summer monthes. This may be done in a trial manner for the first year of operation.

C. PUBLIC TRANSIT

There is no question that the automobile will continue to be the predominent mode of transportation on the Island of Nantucket for some time to come. Like most rural communities, scattered trip origins and destinations make it extremely difficult to design an economical and convenient transit system. Residents and visitors alike enjoy the flexibility a personal automobile gives them. Schedules and routes are fluid and out-of-pocket expenses*, while rising, are still small for a car. Furthermore, it is almost impossible to get to Nantucket for a few weeks' vacation with one's family without bringing a car loaded to the roof (and on the roof).

The establishment of a modest mini-bus system serving the central business district during the busiest months of the year would not do away with the need for a car on the Island. It would, however, serve a certain segment of the traveling public and thereby relieve to a significant degree pressures on the central business district for vehicle use. It may also do away with the need for a second, third or fourth car in the family of a summer visitor.

*Does not include insurance, major maintenance, payments, registration.

A mini-bus system could be designed, for instance using three 19-21 passenger buses which would radiate out from lower Main Street every 12 to 15 minutes to destinations outside the central business district along fixed routes. Prospective passengers could flag down a bus all along the route and pay a small fare or show an annual pass card. Senior citizens might ride at a reduced rate or free. Routes could include connections to satellite parking areas, such as the High School parking lot. A certain number of "pulses" of the system could include wider service to outlying areas such as Surfside, Siasconset or Madaket. During the ends of the season when ridership begins to fall off, deviation from the fixed route could allow for some door to door pick up and drop off (activated by radio command).

Anticipated riders would include the elderly, young people, a large proportion of downtown employees and shoppers (probably not many food shoppers).

The establishment of a mini-bus system should not be thought of in connection with the creation of a mall on Main Street. In fact, to the contrary, one of the principal aims of the transit system is to relieve undue pressures on Main St. to allow for more fluid vehicular access to Main Street and downtown businesses. It is recognized that certain businesses in the central business district are dependent upon vehicular access near their shops.

The concept of public transit on Nantucket, while a good one, raises more questions than it answers. Who will subsidize the system's losses? Where will the buses be routed? What kind of buses will be used and how many? What part of the year will service run? These and other important questions must be fully answered.

With these considerations in mind, the Town should consider the following alternative actions:

1. Establish a "Regional Transit Authority" persuant to Chapter 161B CL, the purpose of which would be to determine the feasibility of establishing a system of public transportation to serve downtown Nantucket and outlying areas with mini-buses and the feasibility of establishing appropriate parking opportunities in connection with the system. The establishment of the regional transit authority will require a Town Meeting vote.

2. Prepare a "Transit Development Plan" to determine the characteristics of a feasible transit system including an analysis of financial management and administration.

D. CONTROL OF OFF-ISLAND VEHICLES

As mentioned in Part I of this report, the number of cars being deposited on the Island each summer is increasing at an alarming rate. At the same time it has been mentioned that visitors coming to Nantucket have no choice but to bring one, two, three or more cars because there is no other way to get around town.

To some, the only answer to the vehicle congestion problem on Nantucket is to restrict cars coming over to the Island on the boat - to stop the problem at the source. Those who advocate such a policy sometimes suggest special legislation designed to force the Steamship Authority to establish a ceiling on the number of cars brought over. Sometimes a change in rate structure (raising the fare a great deal) or establishing a landing fee per vehicle levied by the County or Town is seen as the best mechanism. Other times the simple increase in the amount of mainland parking facilities is advocated.

Aside from a serious legal problem some of these plans have, (can a Town or County deny access to or use of State-aided highways within its jurisdiction to certain people whose taxes may have been used to build or maintain them) there are several other problems which must be addressed before the Town would seek to reduce traffic off-loading from the boat:

- What are the short- and long-term economic consequences of such a strategy, particularly if there are no other alternative means of getting around the Island?

- What will happen to the number of car rentals under such a plan; will it not mean that rentals will simply off-set any retention of cars on the mainland?

- How will such a policy affect the solvency of the Steamship Authority?

- How will visitors get around Town without an alternate mode of transportation.

Another strategy possibility which also may be questionable legally is to enact a County or Town tax on gasoline during the summer (perhaps by special legislation) which would force the cost of gasoline to $1.50 or $2.00 per gallon, thus discourage use of the automobile while on the Island. Economic effects on year-round residents could be off-set by a negative tax enacted during the off-season which would compensate for the summer, ie. bring the cost of gasoline down to $.20 per gallon during the winter.

Another even more radical scheme would have the County or Town buy all available boat tickets for car space during the busy summer monthes and then turn around and sell them in a "managed" fashion.

Finally, a Town parking sticker permit system has been advocated which would limit the number of permits issued on a household basis.

In other words, the first year the Town may decide to issue only four permits per household. The number of permits issued per household could be reduced by the Town if it seemed reasonable to do so.

The provision of cheaper mainland parking has been seen by some as a partial solution to the problem of ever-increasing numbers of automobiles coming to the Island. Added parking available at a reasonable cost would probably not affect plans of those staying on the Island for a week or more but might affect short-term visitors. Since the purchase and construction of such parking may be eligible for Federal funding (80%) when it is part of a transit plan, the problems of financing such a venture may not be as difficult as some would suggest. The system could be worked so that along with his parking fee, a visitor leaving his car in a "park and ride" lot would be given a day, weekend, weekly or monthly pass on the mini-bus system. Perhaps the most difficult problem associated with this measure would be find suitable parking lot land on the mainland.

It can be seen from this discussion that there may be numerous problems associated with each of these strategies which are too comprehensive and legally complicated to be within the scope of this report. The reduction of automobiles coming to the Island, however, may be the only long-term and substantive policy area with regard to traffic and congestion in Nantucket's central business district.

The Town should consider:

1. Inclusion of off-Island parking opportunities in any Transit Development Plan it may prepare in the future.

2. Develop a Town Parking Permit System pursuant to Chapter 40 Section 22 of the General Laws of the Commonwealth giving consideration to the possibility of issuing stickers on a per household basis, or on some other basis which discourages long-term visitors from bringing second, third and fourth cars for the summer, or short-term visitors from bringing their cars at all.

[illegible] the [illegible] or the Town may decide [illegible] permits per household. The number of permits issued [illegible] by the Town if it [illegible] reasonable to do so.

E. BIKEWAYS

Competition and conflicts between cyclists and automobile drivers on Nantuckets' narrow street system has been described and documented in Part I of this report. It is apparent that one major cause of interruptions and delays in traffic circulation are cyclists -many of whom may be on a bike for the first time in twenty years and who may be totally unfamiliar with the Island's road pattern. Compounding this matter further are occasional abuses of rules of the road and a general lack of respect at times between car driver and cyclist.

Building bikeways in built-up areas is usually not cost-effective and almost always physically impossible if Class I facilities are being considered (bikeway separate from road). Parking, road narrowness and the need, especially on Nantucket, for pedestrian space on the sidewalk mean that in-town bikers will always have to share the right-of-way with motor vehicles.

There are some important things that the Island can do to improve the situation however. First, routing of bicycle traffic should be considered as a means for moving cyclists who may be unfamiliar with Nantucket's streets out of the downtown area in a rapid and efficient manner along streets most suited to handling bike and automobile traffic. A marked route, in conjunction with proper orientation at the bicycle shops could do a lot to reduce confusion and hesitation on the part of cyclists as they leave Town for their out-of-town destinations. Route marking could be accomplished through the use of tastefully designed signs placed at appropriate decision points or by marking the pavement. The route itself should connect bikers with high-interest destinations.

Secondly, bicycle safety education should be improved to the point where cyclists have no reason to claim lack of knowledge of the rules of the road, especially when traveling in the downtown area. The number of cyclists heading down one-way streets the wrong way, cutting corners on a left turn, or riding on the sidewalk seems to be increasing each year.

With these considerations in mind, the Town should consider the following alternative recommendations.

1. <u>Establish a marked Class III bike route serving the central business</u> district which consists of a simple loop with connections to major out of town routes to Jetties Beach, Madaket, Cisco, Surfside and Siasconset/Polpis/ Airport. The basic loop would consist of the following streets: South Beach St., Easton St., West Chester St., New Lane, Quaker Road, Prospect St., Sparks Avenue, Rotary, Lower Orange St., Union St. The loop should utilize existing roadways, ie. no new construction, but should use the sidewalk on Sparks Avenue also, designating it a Class I facility. The Town should consider using bike route signs at appropriate decision points or use color-coded pavement markings (the colors corresponding to destinations, ie. "Take the blue line to Madaket")

2. Continue and expand the Island's bicycle safety education program by publishing a consise pamphlet designed to be made available at bicycle rental stores which includes rules of the road and bike routes for cyclists on the Island. In addition, short ten second spots on Channel 3 and longer bicycle safety programs should continue. Routing maps should be hung at all bike shops, on the boats and at the wharf.

F. DOWNTOWN MALL/PEDESTRIAN SANCTUARIES

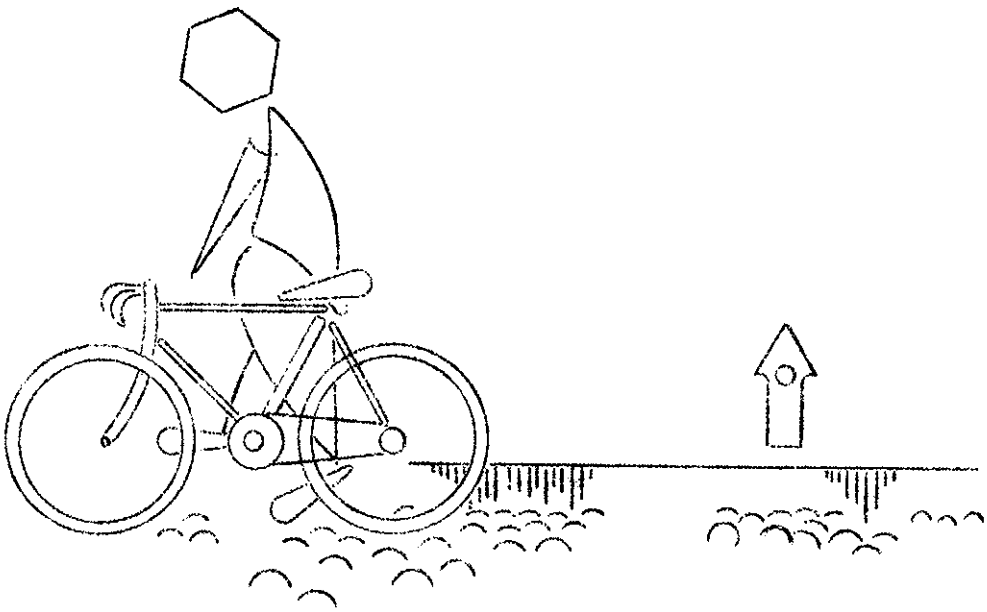
Closing off Main Street to vehicular traffic from South Water Street to Center Street has been a topic of discussion for sometime on the Island. Understandibly, it is a topic that most people feel very strongly about one way or another.

While the establishment of downtown malls in some other communities has been successful at least a fair proportion of the time, it is clear that the success rate is dependent upon two related factors. First, parking must be available in the immediate area to compensate for the loss of parking on the main thoroughfare. In many places this has meant the provision of parking immediately behind the main shopping street or in a parking garage. An important factor in the acceptability of alternate parking of this sort is the psychological distance between new parking provided and the front doors of businesses. In other words, although a parking space may be the same physical distance to the store, the fact that the store cannot be readily seen from the parked car, or that getting to the store involves a number of complicated turns walking may undermine the attractiveness of the alternate parking.

A second factor which tends to affect the success rates of downtown malls is the availability of public transit, particularly insofar as it may shuttle in prospective shoppers from outlying neighborhoods or satellite parking areas.

While it is true that with few exceptions, such as grocery and liquor stores, retail sales depends simply on large volumes of people on foot with money to spend rather than simply "front-of-the-store" parking, it would be premature to expect the creation of a downtown mall on Main Street in Nantucket to be a complete success. The lack of suitable alternate parking spaces to replace and augment the sixty (60) spaces lost through the creation of the mall would be a substantial handicap to the success of such a scheme. This fact, linked with the fact that there is no public transit system in place makes the closing of Main Street to traffic and parking at this time ill-advised.

IV PLAN IMPLEMENTATION



IV. PLAN IMPLEMENTATION

The previous section of this report listed and discussed sixteen related alternative actions, each of which in its own way will contribute to improving the circulation and parking problems experienced by Nantucket's central business district. The alternative actions were developed in response to an analysis of existing conditions and an appraisal of goals and objectives.

This final section of the report seeks to program these recommended actions in a practical manner by year. The basic theme inherent in the implementation of these actions is that the Town should move slowly, cautiously but deliberately in affecting these changes in order that the condition of the problem may be carefully monitored. Feedback from continual monitoring should serve as a basis for altering the actions to insure that goals and objectives will not be unduly compromised.

The following is a suggested timetable for implementing the various elements of this plan.

1976
North Water Street one-way change, Center Street one-way change
Cliff Road one-way change, Expand Parking Restrictions

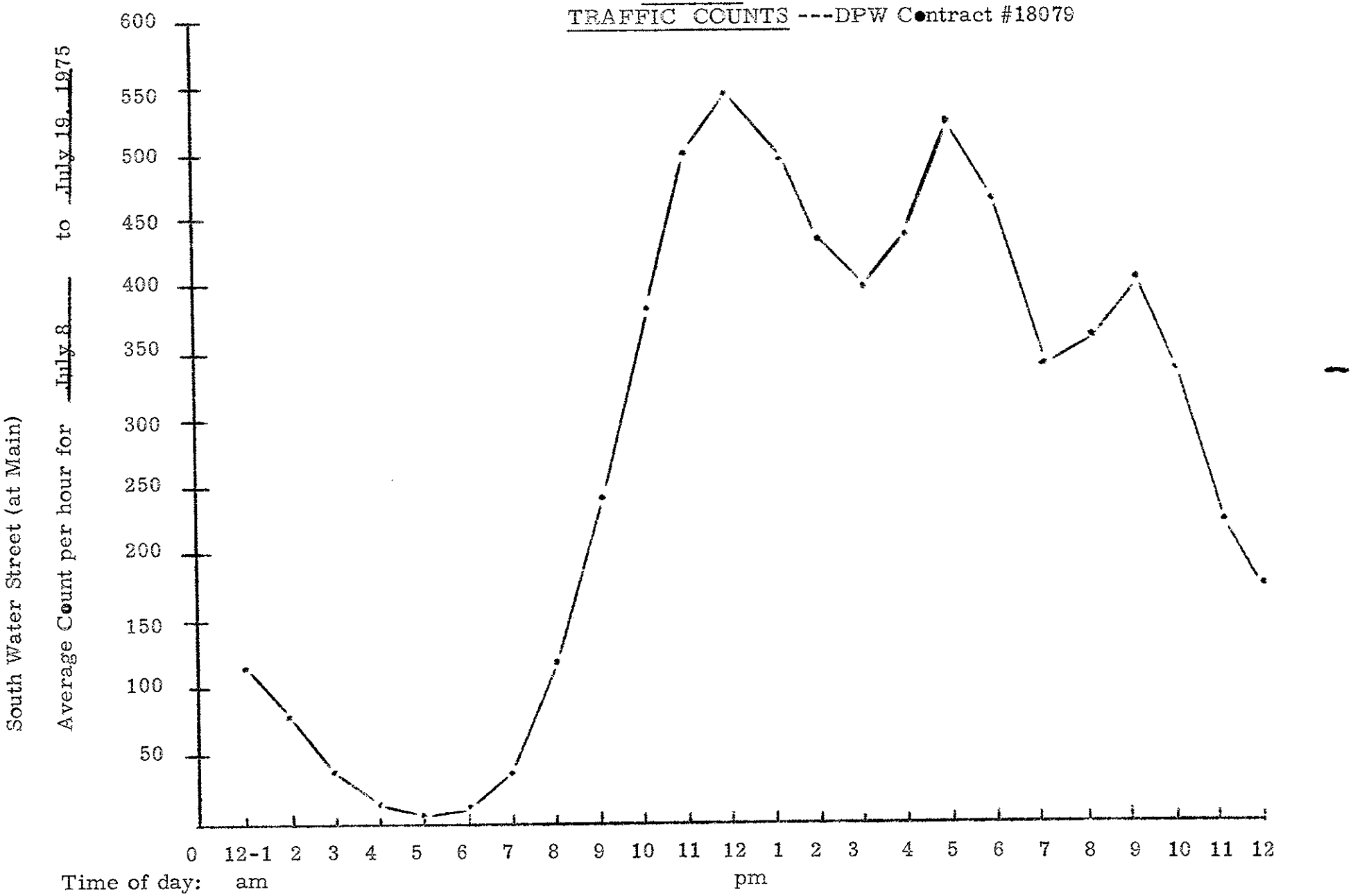
1977
Establish Regional Transit Authority
Prepare Transit Development Plan
Expand Parking Restrictions
Develop "Immunity Sticker" system
Adopt new parking, load and unloading requirements as amendment to zoning by-law
Mini-bus shuttle service by Chamber of Commerce
Develop Town parking permit system
Bicycle Education and Safety Program

1978
Parallel parking on Main Street trial
Expand parking restrictions
Issue "Immunity Stickers"
Implement Transit System if advisable
Construct Washington Street parking lot
Issue Town parking permits
Establish Class III Bike Route Loop in Town
Bicycle Education and Safety Program

APPENDIX A: TRAFFIC VOLUME STATISTICS

NP&EDC

TRAFFIC COUNTS ---DPW Contract #18079



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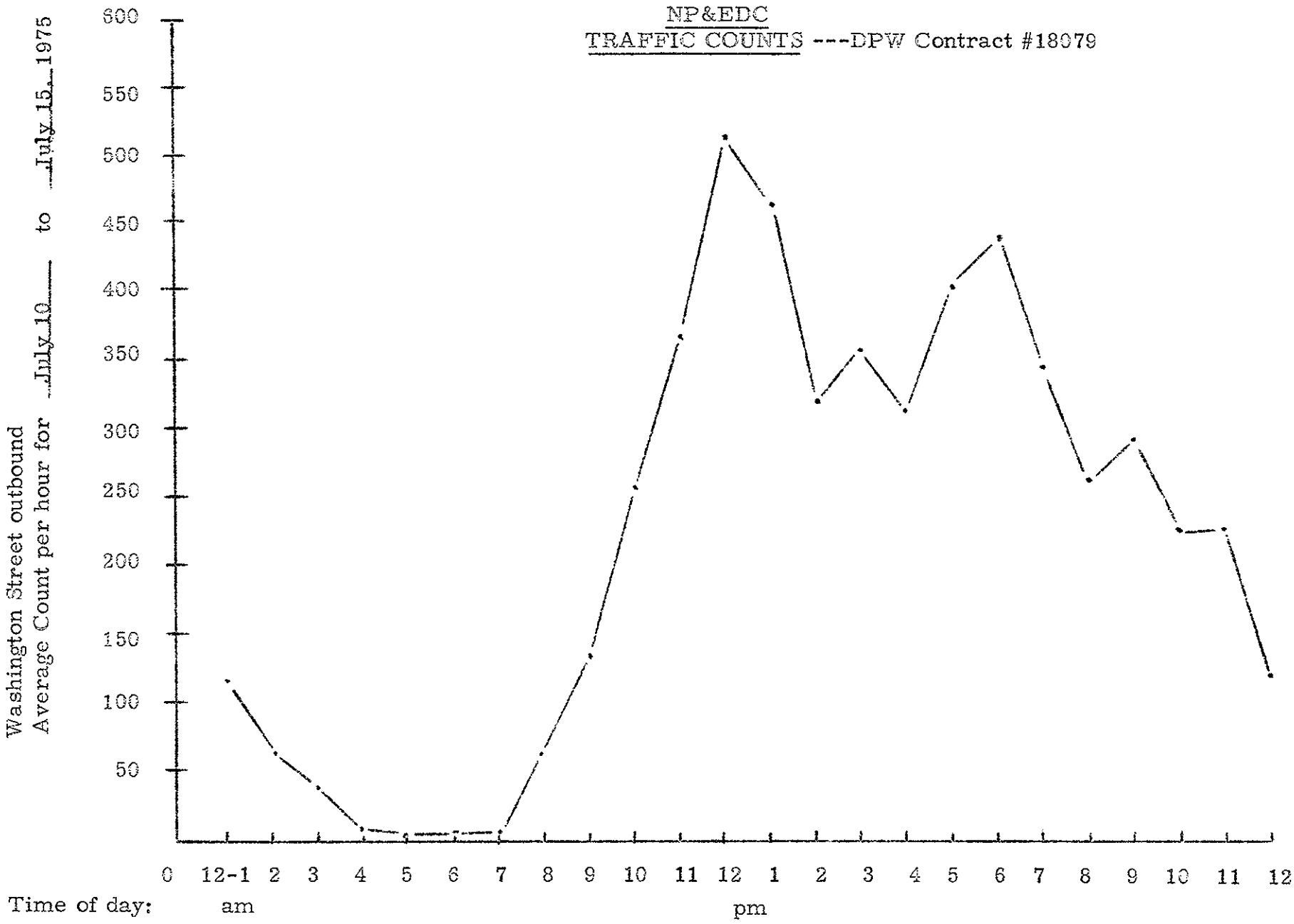

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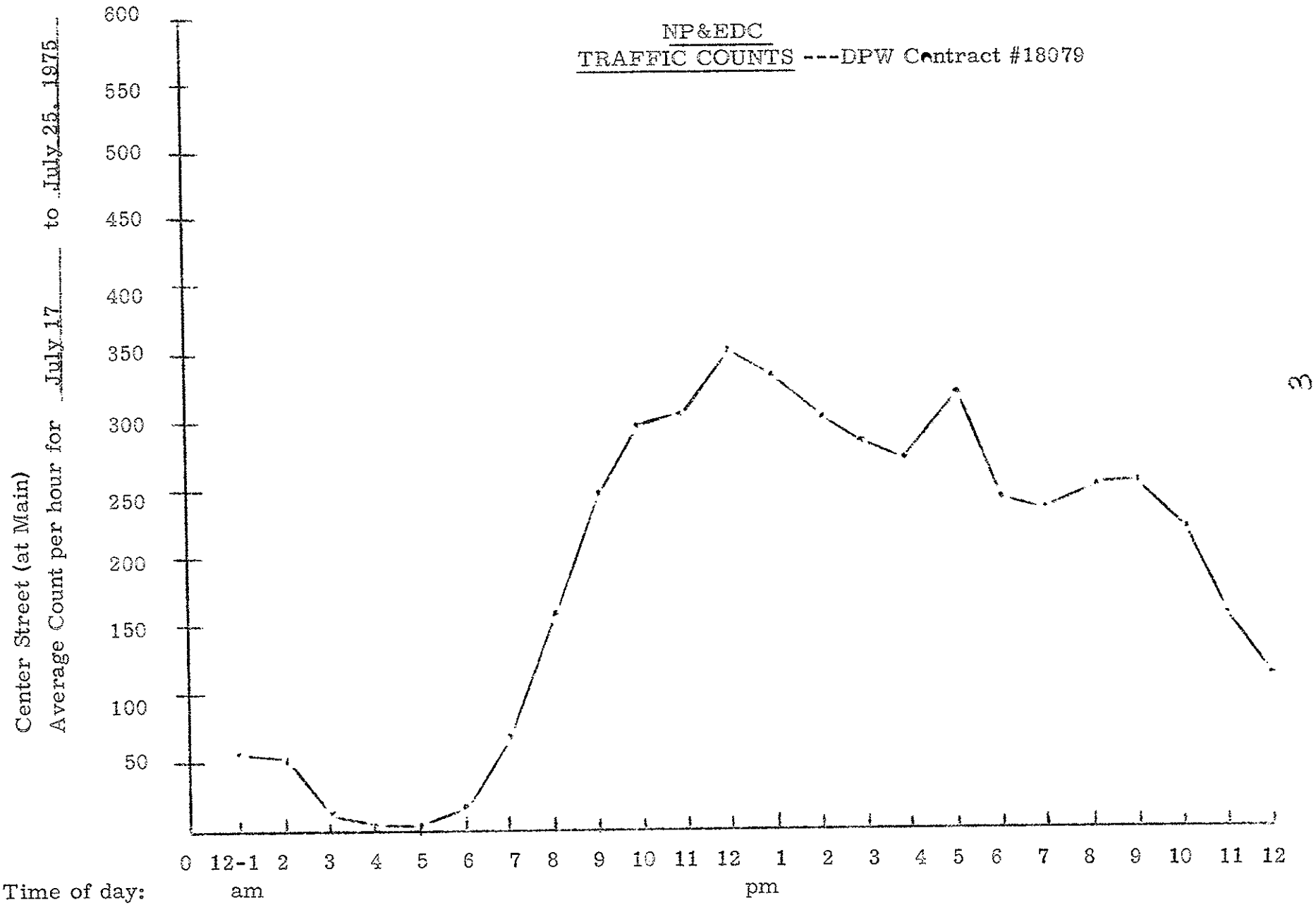

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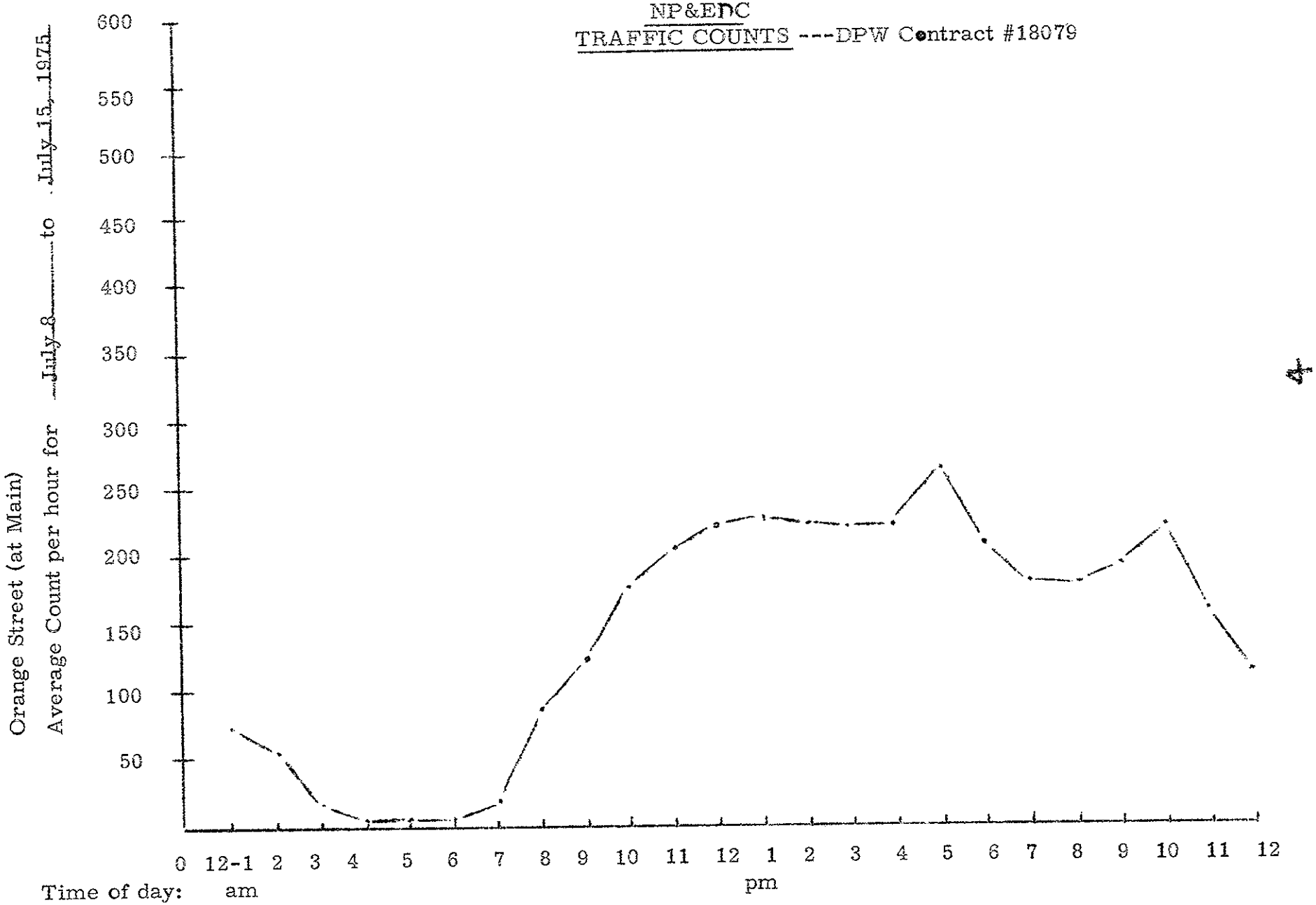

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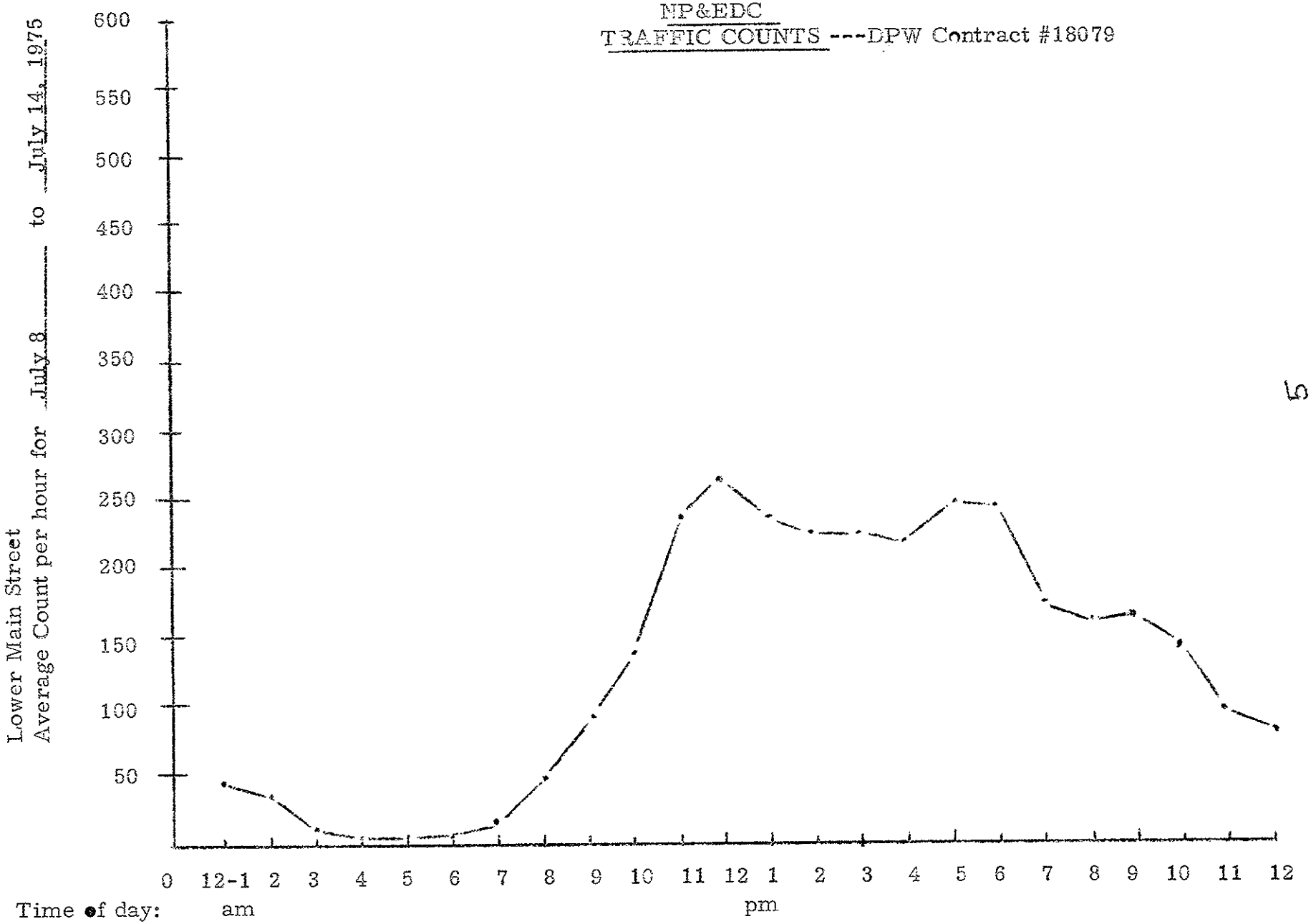
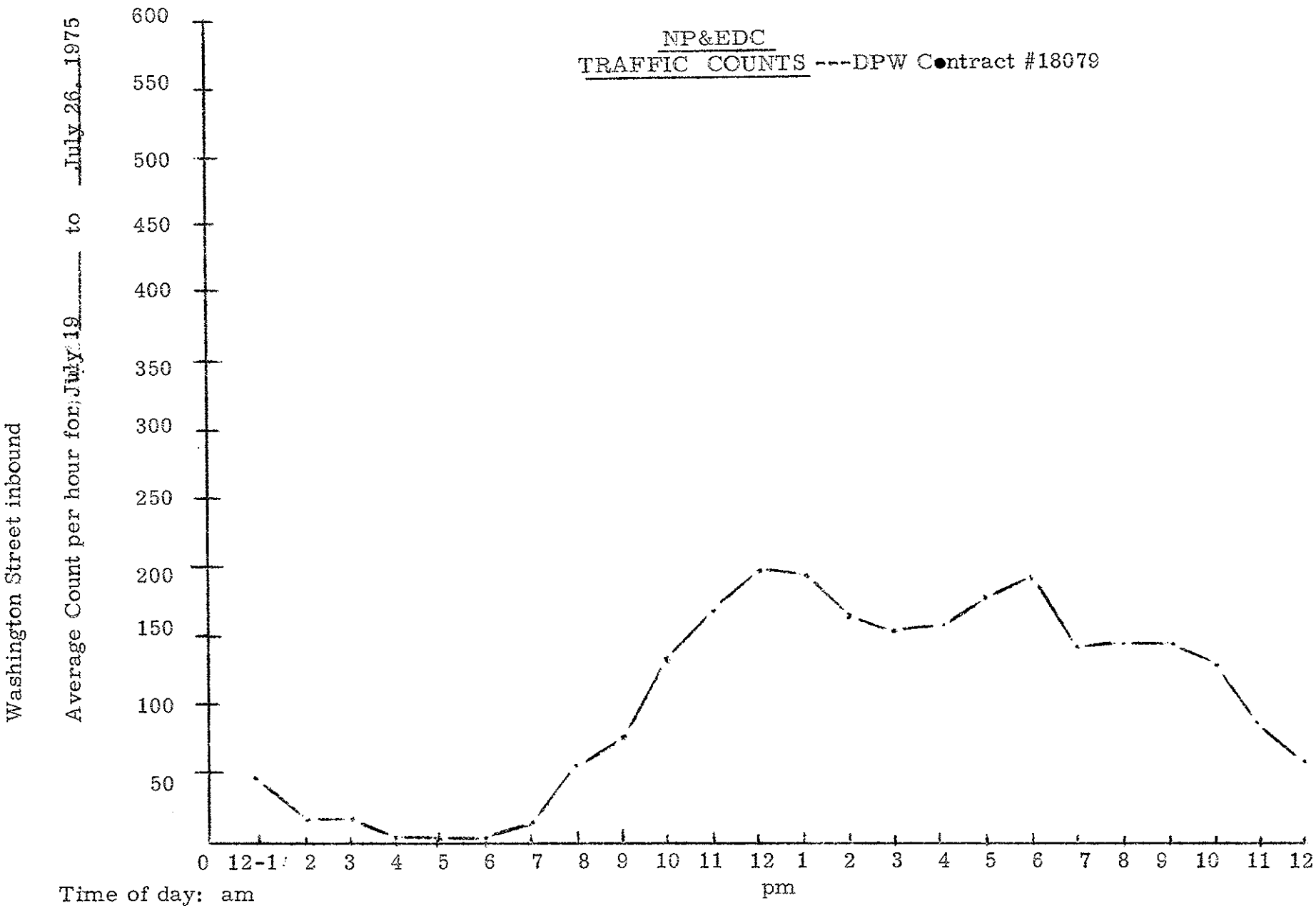
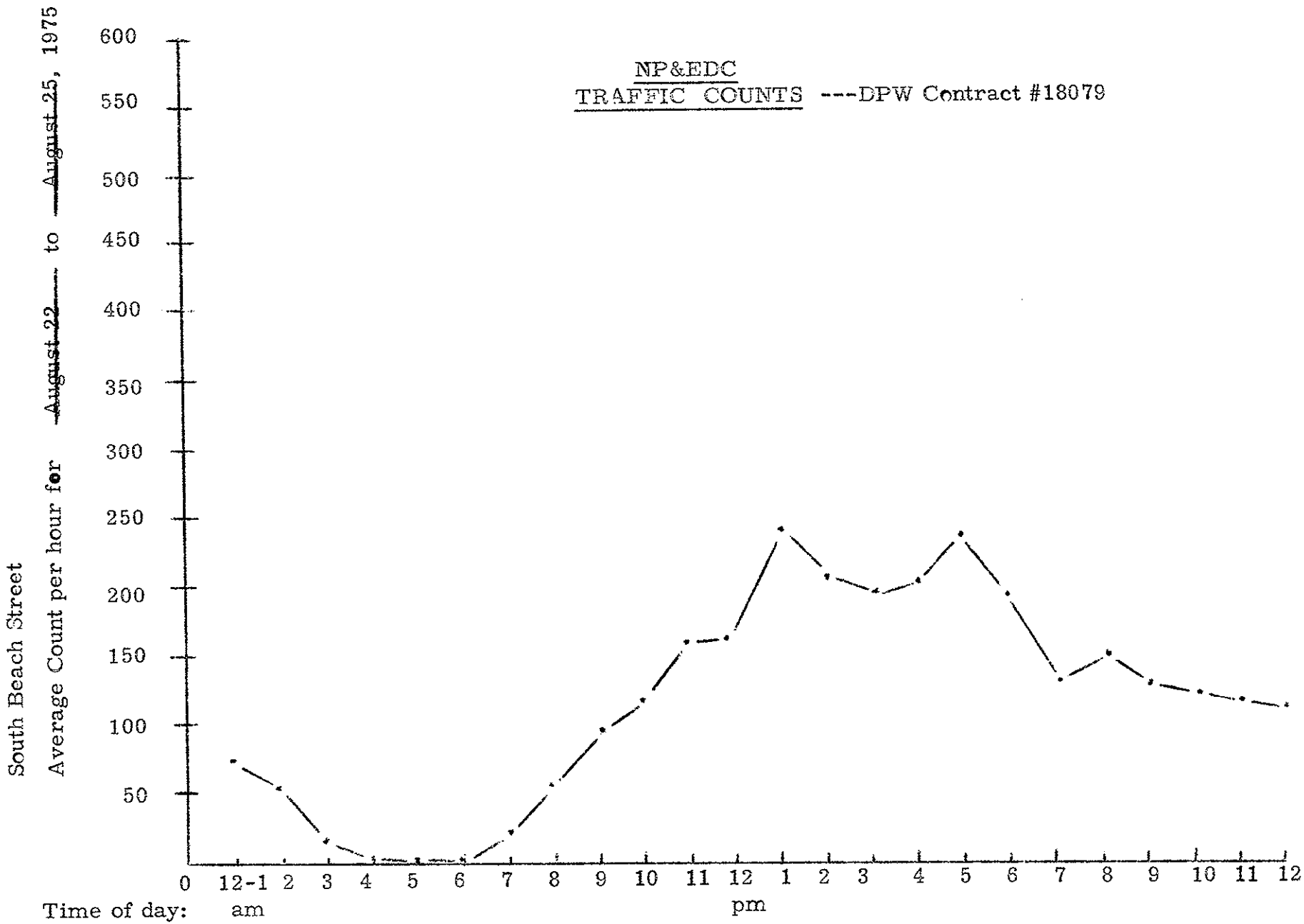



NP&EDC
TRAFFIC COUNTS ---DPW Contract #18079
Washington Street inbound
Average Count per hour for July 19 to July 26 1975
600
550
500
450
400
350
300
250
200
150
100
50
0 12-1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
Time of day: am
pm

NP&EDC

TRAFFIC COUNTS ---DPW Contract #18079



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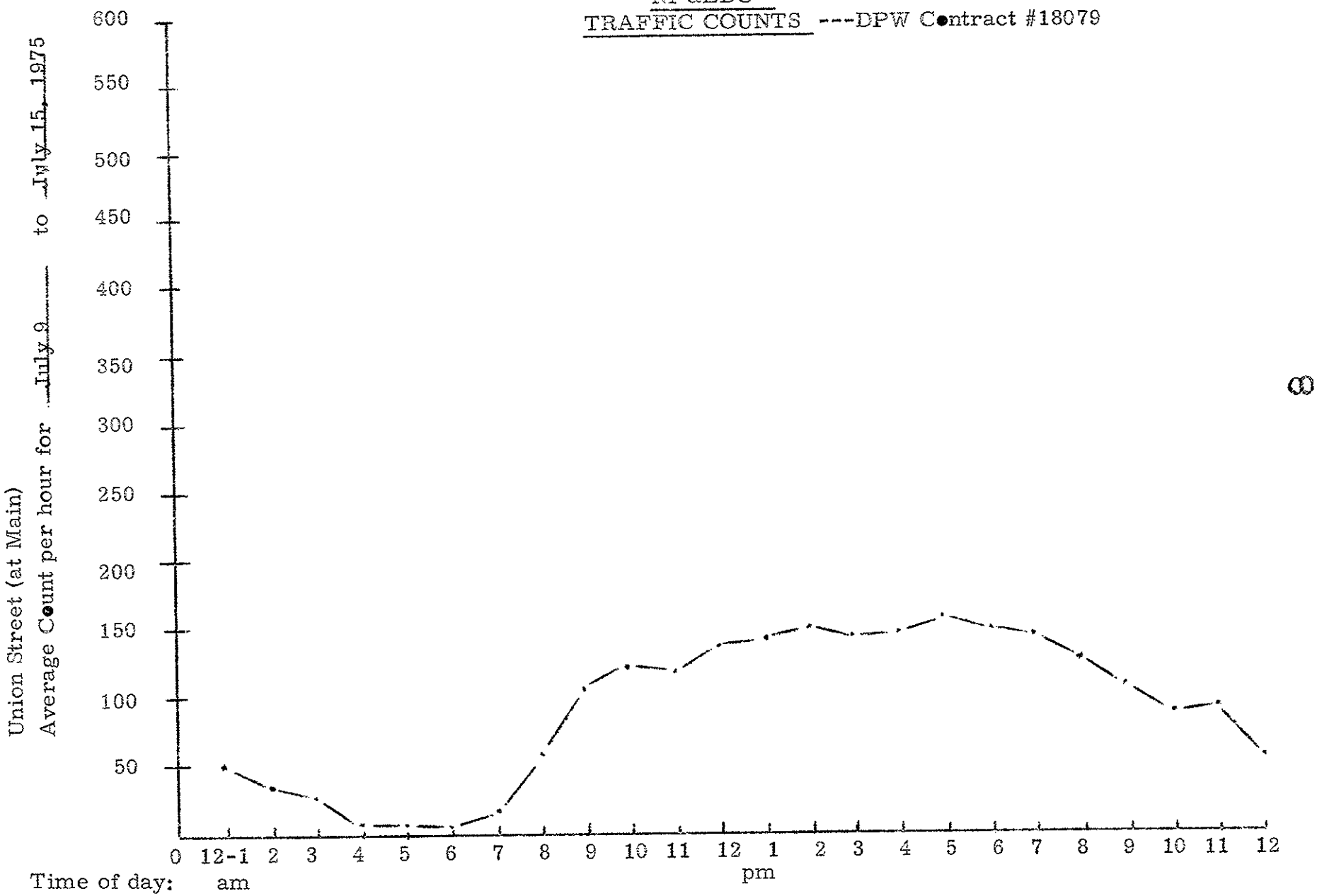

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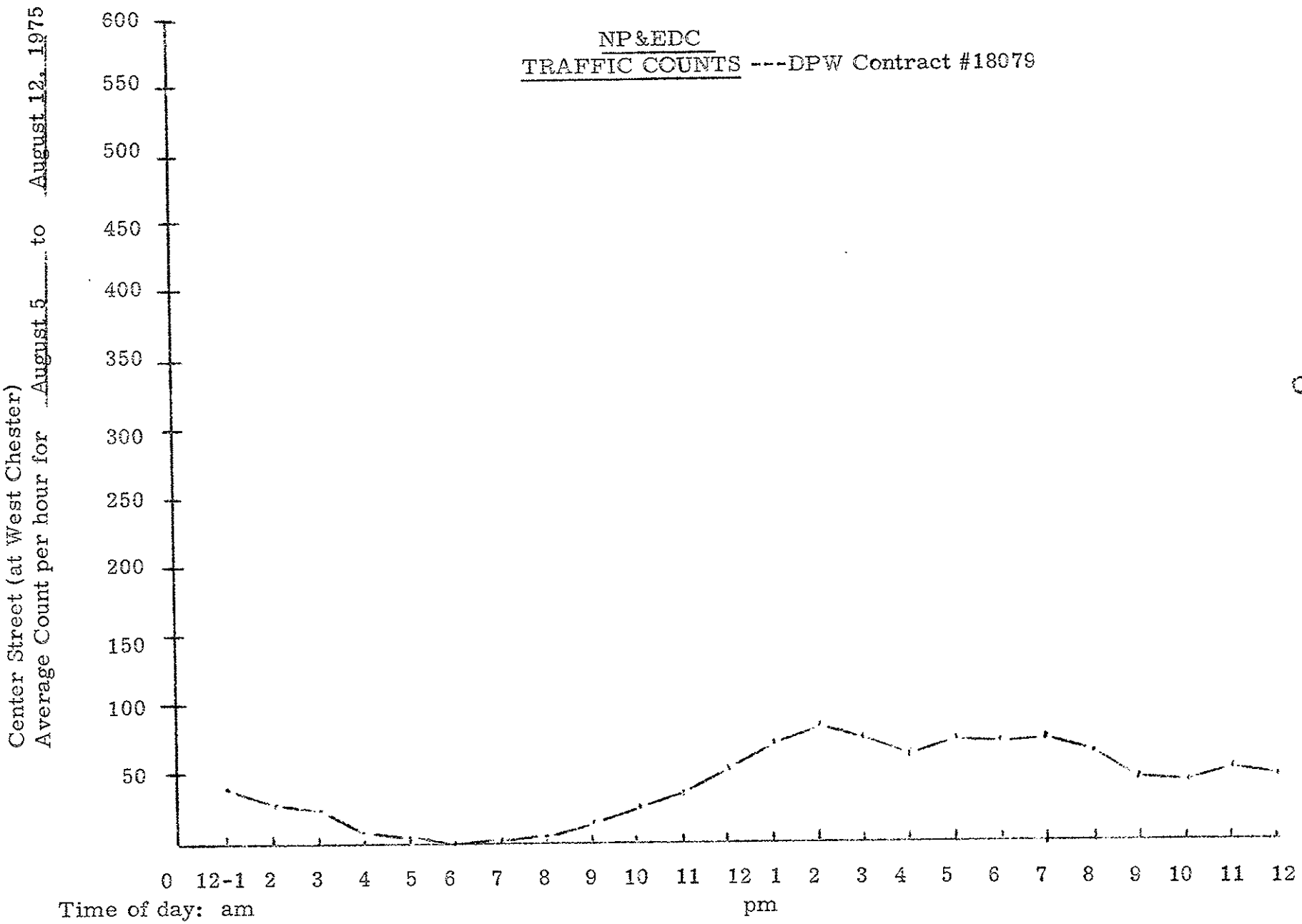

9

APPENDIX B: PROPOSED PARKING REGULATIONS

ARTICLE XX

OFF-STREET PARKING, LOADING AND UNLOADING

2001 Purpose

The purpose of off-street parking, loading and unloading regulations is to provide for safe and convenient vehicular circulation of vehicular traffic on the Island.

2002 General Regulations

2002.a Size: Each required off-street parking space shall be at least nine (9) feet six (6) inches in width and at least twenty (20) feet in length, exclusive of access drives or aisles, ramps, columns, or office or work areas. Such space shall have a verticle clearance of at least six (6) feet six (6) inches, which shall be measured at right angles to the axis of the vehicle. Aisles shall be not less than twenty-four (24) feet wide for 90 degree parking, fifteen (15) feet wide for 45 degree parking, and twelve (12) feet wide for parallel parking. For parallel parking, the length of the parking space shall be increased to twenty-three (23) feet.

2002.b Access: Except on lots accommodating single-family dwellings, each off-street parking space shall open directly upon an aisle or driveway at least 12 feet wide or such additional width and design as to provide safe and efficient means of vehicular access to such parking space. All off-street parking facilities shall be designed with appropriate means of vehicular access to a street in a manner which will least interfere with traffic movement.

2002.c Collective parking: Off-street parking facilities for separate uses on the same lot may be provided collectively if the total number of spaces so provided is not less than the sum of the separate requirements, and requirements governing location of accessory parking spaces in relation to the uses served are adhered to. Further, no parking space or portion therof shall serve as a required space for more than one use.

2002.d Computation: When determination of the number of off-street parking spaces required by this By-Law results in a requirement of a fractional space, any fraction of one-half or less may be disregarded, while a fraction in excess of one-half shall be counted as one parking space. Parking spaces required on an employee basis shall be based on the maximum number of employees on duty or residing, or both, in the premises at any time.

Garage space or carports may be used to meet parking requirements.

2002.e Screening and Landscaping: All open automobile parking areas containing more than four (4) parking spaces shall be effectively screened on each side adjoining or fronting on any property situated in a Residence District, or any institutional premises by a wall, fence, or densely planted compact hedge not less than five (5) feet nor more than eight (8) feet in height, unless the closest point of such parking area is at least 75 feet from the nearest residential or institutional property line, or the hedge, wall or fence is within 30 feet of the intersection of any street line.

2002.f Lighting: Any lighting used to illuminate off-street parking areas shall be directed away from residential properties and public streets in such a way as not to create a nuisance. However, in no case shall such lighting exceed three (3) foot candles measured at the lot line.

2002.g Location: Parking spaces may be located on a lot other than that containing the principal use with the approval of the Planning Board as a Special Permit.

2002.h Surfacing: Any off-street parking area shall be graded for proper drainage and shall be surfaced so as to provide a durable and dustless surface, such as a gravel, concrete or bituminous concrete surface.

2002.i For uses which do not fit into one of the categories listed in Section 2003, the determination of the appropriate parking space requirement shall be made by the Zoning Officer.

2002.j Off-street parking and loading space as required in this section shall be provided for all new buildings and structures and for additions to existing buildings or structures. Additional parking or loading facilities are mandatory only in the amount by which the requirements for the new use would exceed those of the existing use.

2002.k Existing off-street parking or loading facilities provided at the effective date of this By-Law and actually being used at that time in connection with the operation of an existing use, shall not be reduced below the minimum required by this article.

2003 Off-street Parking Requirements

Use	One Parking Space for Each..
Single-family detached dwellings	dwelling unit
Hotels, motels, guesthouses and boarding houses, dormatories	guest room
Nursing homes, hospitals	4 beds
Retail stores	500 sq. ft. of net sales area, plus one space for each 3 employees plus one space for each business vehicle.
Restaurants, taverns and bars	4 seats
Offices	3 employees
Places of public or private assembly including theaters, auditoriums, churches, schools.	4 seats plus one for each 3 employees
Food markets and grocery stores	100 sq. ft. of public floor area
Bowling alleys	1/4 alley plus one each employee
Vehicle service stations	200 sq. ft. of floor area devoted to repair or services plus one for each employee.
Clubs and lodges	100 sq. ft. of floor area available to patrons.
Public swimming pools	12 sq.ft. of water surfaces
Laundromats	1 1/2 washing machines
Home occupations	Patron plus the requirment for the dwelling to which the use is accessory
Light industrial	Employee plus anticipated visitor parking.

Storage, warehousing and wholesaling	Employee plus one for each business vehicle.
Marinas	Slip
Skating rinks	90 sq. ft. of floor area available to patrons.
All other non-residential uses	Vehicle customarily incidental to the use plus one for each 3 employees

2004 Off-street Loading Facilities

2004. a In addition to the off-street parking space required above, any building erected, converted or enlarged for any non-residential use shall provide adequate off-street areas for loading and unloading of vehicles. The minimum size loading space shall be thirty-five (35) feet in depth, twelve (12) feet in width, with an overhead clearance of fourteen (14) feet. No driveways or curb cuts shall exceed twenty-five (25) feet in width.

2004. b All non-residential establishments shall provide loading and unloading and commercial vehicle storage space adequate for their needs. This required space will be provided in addition to established requirements for patron and employee parking. In no case where a building is erected, converted or enlarged for non-residential purposes shall the public rights-of-way be used for loading or unloading of materials.

2004. c All off-street loading facilities which are within thirty (30) feet of a property which is currently used for residential purposes shall be screened therefrom by building walls, or a unformily painted solid fence or wall not less than six (6) nor more than eight (8) feet in height. No loading facility shall be located within thirty (30) feet of an intersection of any two streets.

2005 Special Permits for Reduced Requirements

The Planning Board may reduce the above-enumerated off-street parking, and loading requirements by granting a Special Permit for such reduction in specific cases when it is shown, to the satisfaction of the Board, that the enforcement of such requirements would have the overall effect of reducing or equalling existing parking opportunities in the area (such as the case where a curb cut for the provision of one off-street space would eliminate an on-street space.